

CLAIMS

What is claimed is:

1. A method for remote software code update, comprising:
  - receiving an update command for a first program resident in a first code space
  - comprising at least one segment;
  - transferring program control to a second program executing in second code space
  - comprising one or more segment;
  - selecting one of said at least one segment;
  - mapping said selected segment to data space; and
  - writing said selected segment.
2. The method of claim 1, further comprising repeating said selecting, said mapping and said writing until each of said at least one segment that comprises at least part of said first program have been written.
3. The method of claim 1, further comprising erasing said selected segment after said mapping and before said writing.
4. The method of claim 1 wherein said first program and said second program are written for execution on an embedded device.

5. The method of claim 4, further comprising:
  - resetting said embedded device;
  - determining whether said first code space is valid;
  - transferring program control to said first code space when said first code space is valid; and
  - continuing execution from said second code space when said first code space is invalid.
6. The method of claim 1 wherein
  - said first program comprises a main program; and
  - said second program comprises a boot program.
7. The method of claim 6 wherein said first code space is larger than said second code space.
8. The method of claim 7 wherein said first program is larger than said second code space.
9. The method of claim 1 wherein said first code space is larger than said second code space.

10. The method of claim 9 wherein said first program is larger than said second code space.

11. A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method for remote software code update, the method comprising:

receiving an update command for a first program resident in a first code space comprising at least one segment;

transferring program control to a second program executing in second code space comprising one or more segment;

selecting one of said at least one segment;

mapping said selected segment to data space; and

writing said selected segment.

12. The program storage device of claim 11 wherein said method further comprises repeating said selecting, said mapping and said writing until each of said at least one segment that comprises at least part of said first program have been written.

13. The program storage device of claim 11, wherein said method further comprises erasing said selected segment after said mapping and before said writing.

14. The program storage device of claim 11 wherein said first program and said second program are written for execution on an embedded device.

15. The program storage device of claim 11 wherein said first program comprises a main program; and said second program comprises a boot program.

16. The program storage device of claim 11 wherein said first code space is larger than said second code space.

17. An apparatus for remote software code update, the apparatus comprising:  
means for receiving an update command for a first program resident in a first code space comprising at least one segment;  
means for transferring program control to a second program executing in second code space comprising one or more segment;  
means for selecting one of said at least one segment;  
means for mapping said selected segment to data space; and  
means for writing said selected segment.

18. The apparatus of claim 17, further comprising means for repeating said means for selecting, said means for mapping and said means for writing until each of said at least one segment that comprises at least part of said first program have been written.

19. The apparatus of claim 17, further comprising means for erasing said selected segment after said mapping and before said writing.

20. The apparatus of claim 17 wherein said first program and said second program are written for execution on an embedded device.

21. The apparatus of claim 17 wherein  
said first program comprises a main program; and  
said second program comprises a boot program.

22. The apparatus of claim 17 wherein said first code space is larger than said second code space.

23. An apparatus for remote software code update, comprising:  
a memory comprising a first code space, a first data space, a second code space and a second data space, each of said spaces comprising at least one segment;  
a processor configured to execute instructions in a first program resident in said first code space until an update command is received, said processor further configured to transfer program control to a second program executing in said second code space when said update command is received, said processor further configured to select one of said at least one segment, map said selected segment to data space and write said selected segment.

24. The apparatus of claim 23 wherein said processor is further configured to repeat said selecting, said mapping and said writing until each of said at least one segment that comprises at least part of said first program have been written.

25. The apparatus of claim 23 wherein said processor is further configured to erase said selected segment after said mapping and before said writing.

26. The apparatus of claim 23 wherein said device comprises an embedded device.

27. The apparatus of claim 23 wherein  
said first program comprises a main program; and  
said second program comprises a boot program.

28. The apparatus of claim 23 wherein said first code space is larger than said second code space.

29. A method for remote software code update, comprising:  
transferring program control to a first program executing in first code space  
comprising one or more memory segment, said transferring responsive to an  
update command received from a remote device, said update command  
comprising a request to update a second program resident in a second code space  
comprising at least one memory segment;  
selecting one of said at least one memory segment;  
mapping said selected memory segment to data space; and

writing said selected memory segment.

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